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There is provided a plasma processing system and method capable of decreasing the non-uniformity of a field distribution on the surface of an electrode and making the density of plasma uniform, in a plasma processing using a high density plasma which can cope with a further scale down. A

First and second electrodes 21 and 5 are provided in a chamber so as to face each other. A feeder plate 52 is arranged so as to be slightly spaced from the opposite surface of a surface serving as a feeding plane of the first electrode facing the second electrode 5. A feeder rod 51 is connected to the feeder plate 52 at a position which is radially shifted from a position corresponding to the center of the feeding plane of the first electrode 21. The feeder plate 52 is rotated to rotate the feeding position of the feeder rod 51 on the feeding plane of the first electrode. A high frequency electric power is thus fed to form a high frequency electric field between the first and second electrodes 21 and 5 to form plasma to plasma-process a substrate W.